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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,696	03/17/2004	Hong Yang	115256	1863

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/801,696

**Applicant(s)**

YANG ET AL.

**Examiner**

George P Wyszomierski

**Art Unit**

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20050124 (Election).  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.  
4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14-46 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040428  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

ee

Art Unit: 1742

1. Applicant's election with traverse of Group II, claims 14-46 in the reply filed on January 24, 2005 is acknowledged. The traversal is on the ground(s) that a search for either group of claims would encompass a search for the remaining group. This is not found persuasive because the original classification for the non-elected coated particles of Group I would be in class 428, and this class would not be relevant to the processes of elected Group II. The requirement is still deemed proper and is therefore made FINAL.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by the Teng et al. Nano Letters article (reference 9 on the attached PTO-1449 form).

The second paragraph on page 262 of Teng et al. discloses a process for forming core-shell nanoparticles substantially identical to that recited in the instant claims, including use of the process steps and specific chemicals as recited in the instant claims. Thus, the Teng et al. disclosure is held to fully meet the limitations of the instant claims.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1742

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng et al.

Teng, discussed supra, does not specify the ranges of the relative amounts of metal salt or organic metallic compound to organometallic compound as recited in the instant claims. However, the ranges as presently claimed include a very broad spectrum ranging from several times more metal salt or metallic compound than organometallic compound to several times more organometallic compound than metal salt or metal compound. Therefore, it is highly likely that any practical application of the process of Teng would employ a ratio somewhere within the presently claimed ranges. Thus, the disclosure of Teng et al. is held to create a prima facie case of obviousness of the presently claimed invention.

6. Claims 23-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng et al. in view of Hattori et al. (PG Pub 2004/0020327).

Teng discloses a process of making core-shell nanoparticles substantially as defined in the instant claims, including the process steps as well as the specific chemicals as recited in the instant claims. The Abstract of Teng indicates that these nanoparticles may be used as precursors for making property-tunable magnetic nanoparticles, thin films, and nanocomposites, which by definition would involve transferring the core-shell nanoparticles to a substrate.

Teng does not specify thermally annealing the particles as required by the instant claims, and does not disclose making the particular material combinations of instant claims 34-36, 40-42, and 46. However,

Art Unit: 1742

a) Hattori paragraphs [0056] thru [0061] indicate that it was known in the art, at the time of the invention, to produce magnetic recording media by transferring magnetic nanoparticles to a substrate, and annealing at a temperature as set forth in instant claims 27 or 33.

b) The method disclosed by Teng is clearly capable of producing core-shell material combinations as defined in the instant claims, i.e. by selection of a proper amount of the relative amounts of platinum and iron precursors as the metal salt, organic metallic compound, and organometallic compounds.

These combined disclosures of Teng et al. and Hattori et al. would motivated one of ordinary skill in the art to form magnetic thin films and nanocomposites by transferring the particles made by the Teng process to a substrate and annealing in a manner as disclosed by Hattori et al.


7. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, *supra*.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective October 1, 2003, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPW  
March 8, 2005

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER